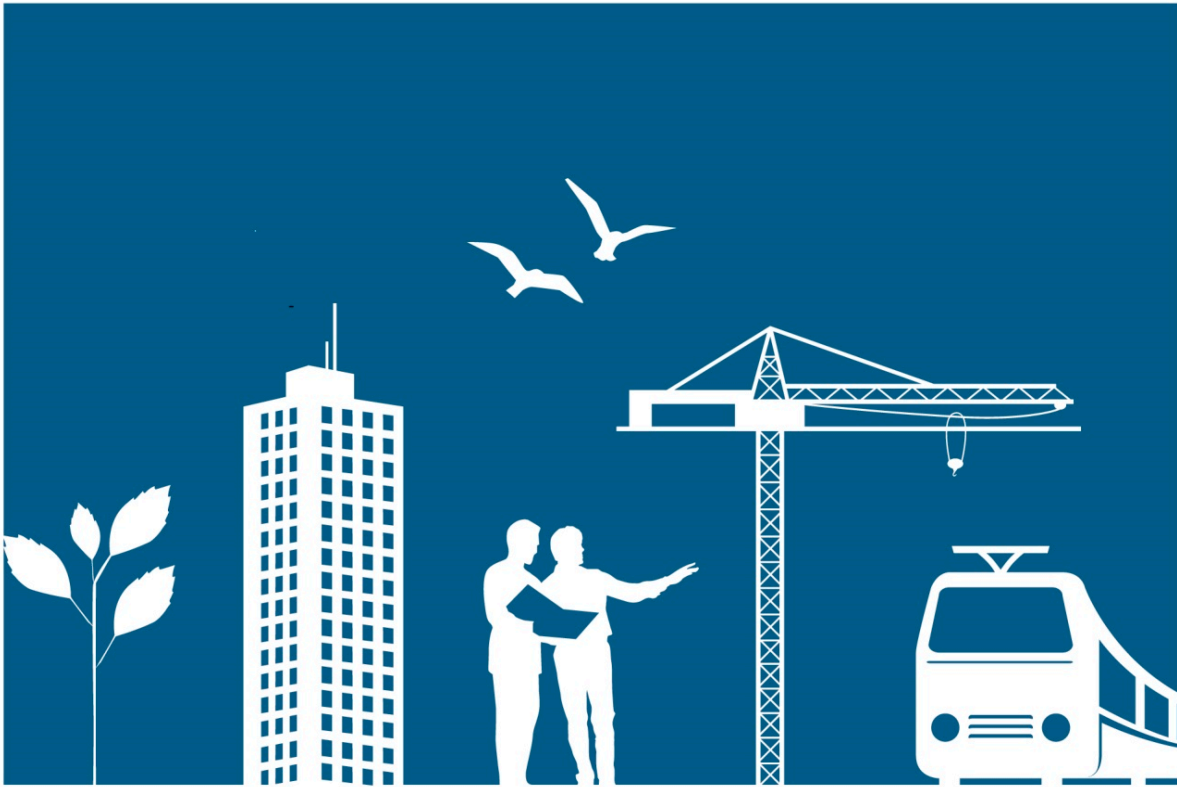




 Sustainable
Development Unit



Under the Weather

Improving health, wellbeing and resilience in a
changing climate

January 2014

A support service led by the Environment Agency

What is Climate Ready?

Climate Ready is a support service led by the Environment Agency providing advice, guidance and tailored sector-specific support to help organisations adapt to a changing climate. Priorities for the service are informed by Government's National Adaptation Programme, published in July 2013. This sets out the objectives, policies and proposals for addressing the risks identified in the national Climate Change Risk Assessment (CCRA). Climate Ready covers England only, but the products generated are available for use across the UK and help us share best practice UK-wide and beyond.¹

About this document

This document has been produced through a partnership between Department of Health (DH), the Sustainable Development Unit (SDU), Public Health England (PHE), and the Environment Agency (EA). It has been designed to complement the SDU's strategy for the NHS, public health, and social care system 2014 – 2020².

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Foreword

“Tackling social inequalities in health and tackling climate change must go together”

Fair Society, Healthy Lives: The Marmot Review, 2010

Changing weather patterns, more frequent extreme weather and rising temperatures have direct implications on our health, and also pose challenges to the way in which the NHS, public health and social care system operates. These impacts and changes are extremely likely to be magnified in the future.

Response to these challenges can be broadly categorised into mitigation (reducing emissions and the human influence on the climate) and adaptation (preventing avoidable impacts and health burdens through comprehensive preparation). Climate science has observed there is a ‘lag effect’ within the climate system, meaning that past emissions will continue to affect our climate for years to come. Adaptation is therefore of upmost importance. This document focuses on adaptation measures available at the local level, and opportunities for Health and Wellbeing Boards to improve people’s health and save money through action on this agenda.

Climate change is - and will increasingly be - an issue of central importance to the health and wellbeing of local communities. Strategies to adapt to climate change are therefore an integral component of local planning and decision making, bringing multiple benefits to the physical and mental health of the population. Taking action on adaptation will improve the resilience of our services and the communities they serve, lessen the burden of illness and disease, and reduce health inequalities. Adaptation also means developing positive networks and sound communication between organisations and local communities, encouraging self-service and the resilience of local communities. Local action on adaptation will support the National Adaptation Programme, and help meet the requirements of the Public Health Outcomes Framework.

Health and Wellbeing Boards play a fundamental role in improving the commissioning and delivery of services across the NHS, local government, and voluntary and community sector. This helps to build strong and effective partnerships which best-serve the interests of the local population. I invite these committees to use the information in this document to help assess local risk to climate impacts, ensuring that Joint Strategic Needs Assessments and local strategies are as resilient and prepared as possible for the challenges of our changing climate.



A handwritten signature in black ink, appearing to read 'David Walker'.

Professor David Walker
Deputy Chief Medical Officer
Department of Health

Introduction

The aim of this toolkit

To assist Health and Wellbeing Boards (HWBs) in integrating climate change adaptation (i.e. measures to reduce negative impacts) into the local health economy. To also highlight how Joint Strategic Needs Assessments (JSNA) and Joint Health and Wellbeing Strategies (JHWS) can be used to achieve this aim, for the benefit of communities.

What the toolkit will offer

1. Illustrate how adaptation to climate change can enhance health and wellbeing and how existing strategies can be adapted at a local level to increase the resilience of people, services and communities to a changing climate
2. Provide HWBs with tools to take action and embed adaptation in their commissioning plans, and demonstrate how this can improve the health of the local population
3. Clarify the urgency in addressing climate change adaptation within HWBs
4. Demonstrate how communities can adapt to changing climate and improve resilience at a local level, whilst reducing the health inequalities associated with a changing climate

Who this toolkit is for

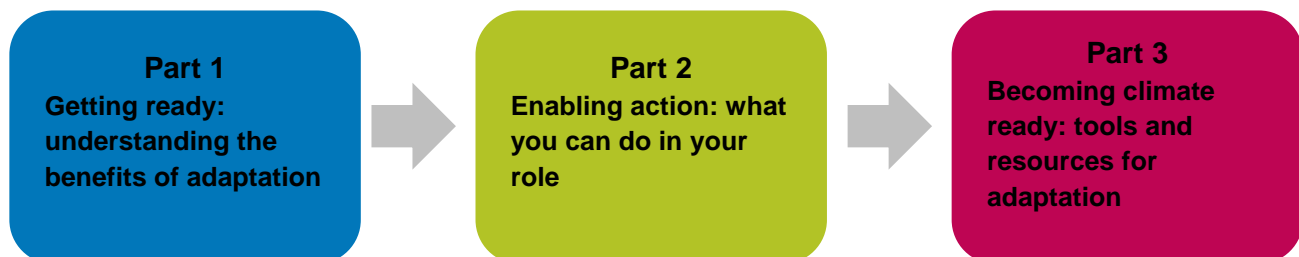
The toolkit is designed mainly for HWBs and their member organisations. However, it will also be useful for those who support the objectives and strategies of HWBs including:

- Local authority public health, environmental health, planning and climate change teams
- Clinical Commissioning Groups (CCGs) and other local commissioners
- Providers of health and social care services
- Charities, voluntary and community organisations including social enterprise
- Healthwatch and other health service user groups
- Elected Members and local political representatives
- Local Resilience Fora (LRFs) and Local Health and Resilience Partnerships (LHRPs)

When and how to use this toolkit

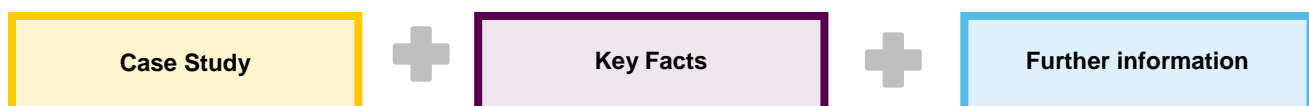
The toolkit is designed to provide a user-friendly guide for non-specialists, which supports the process of developing and renewing JSNAs and JHWSs, enabling them to become climate ready.

It's structured in a modular way, split according to where you are in your journey to integrate climate change adaptation into your local health and social care system. Each section is colour coded for ease of reference:



Keep an eye out for the boxes

Throughout the toolkit you will find text boxes, diagrams and tables; here are some examples of what to look out for:



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Part 1: Getting ready – understanding the benefits of adaptation

“...climate change is happening – now....”

Ban Ki-moon, United Nations Secretary-General

The Significant Seven: effects of climate change on health, wellbeing, and the health and social care system

Climate change health impact	Adaptation examples
1. Increased heat related illness and death – increased mortality from respiratory and cardiovascular diseases. ³	Planning of the built environment; indoor heat reduction measures
2. Flood related illness and displacement – as well as injury and infection, the effect of flooding on mental health is well documented, and a considerable part of the overall health burden. ⁴	Flood defences; flood preparedness plans; building controls/restrictions
3. Increase in food, water and vector borne diseases – an increase in incidences of infections may be seen due to higher temperatures, drought, flooding, changes in habitat and rainfall patterns. ⁵	Surveillance and monitoring programmes; educational programmes
4. Health impacts relating to air quality and aeroallergens – high temperatures are linked to poor air quality with high levels of ozone which are formed more rapidly in strong sunlight; fine particles (PM ₁₀ , PM _{2.5}) that damage health may also become more prevalent in the future. Climate change may result in earlier seasonal appearance of respiratory symptoms and longer duration of exposure to aeroallergens (e.g. pollen). ⁶	Monitoring, alerting, green infrastructure, education programmes
5. Skin cancer and sunburn – excessive exposure to UV may have consequences ranging from premature aging of the skin to skin cancer. Malignant melanoma incidence rates in the UK have more than quadrupled over the last thirty years ⁷	Monitoring; provide shade; educational programmes
6. Pressure on health care providers to keep services running in the face of extreme weather – extreme events such as droughts, wildfires and storms may impact on service delivery as they become more common in the future. ^{8 9} This includes ability to deliver services in the community.	Building and infrastructure design; all hazards risk assessment
7. Increase in health inequalities – between different population groups. For example increase fuel and food prices, reduced access to heating, cooling, health services, education and food security. ¹⁰	Identify and involve vulnerable groups; targeted/tailored information to at risk groups

Box 1: The bigger picture:

Global impacts of climate change on health such as the effects from changing agricultural patterns, the spread of infectious diseases, and global refugee migration and displacement have significant impacts on the global economy. These impacts may have a knock-on effect on local populations in the UK. Further reading:

www.who.int/globalchange/en/

The relevance to health and wellbeing

“Building resilience in people’s lives and their experiences of community is now key to modern social care. It’s also the key to adapting to uncertainty such as climate change”

Peter Hay, Strategic Director for Adults and Communities, Birmingham City Council, as quoted in Changing Conversations, LGA, 2011

Climate change affects global and UK weather patterns and in turn our health and wellbeing. The UK Climate Change Risk Assessment¹¹ suggests that the annual number of flood victims suffering anxiety, depression or other mental problems could double by 2050¹². On top of this, annual damage to UK properties due to flooding from rivers, surface water run-off and the sea currently totals around £1.3 billion. For England and Wales alone, the figure is projected to rise to £12 billion by the 2080s¹³.

As the oceans continue to warm and expand, and as sudden and heavy rainfall events generate increased amounts of surface water runoff into sewers, the incidence of faecal and other pollutants in bathing and shellfish waters may increase¹⁴.

Hospital admissions for respiratory diseases resulting from a rise in concentrations of ground-level ozone are projected to rise by between 2,300 and 10,000 by the 2080s, from the current figure of around 33,000 a year¹⁵.

The Significant Seven will heavily impact health and social care services by increasing the burden of disease. This can be combated by embedding climate change adaptation elements in JSNAs, Joint Health and Wellbeing Strategies (JHWS) and Commissioning Plans.

Our health is directly and indirectly affected by the physical, social, economic and political environment around us through our life course. The health sector, generally speaking, sees climate change as one of the biggest global public health threats this century. There are direct risks to our communities, vulnerable people, and also to the effective delivery of public health and social care. Adaptation to the effects of climate change requires a multi-agency, whole-system approach. This is demonstrated in the National Adaptation Programme¹⁶ (NAP) which sets out a series of actions for key sectors that have been identified as most at-risk from a changing climate, including the health and social care system.

Box 2: Recent extreme weather in the UK?*

December 2013 - the stormiest December on Met Office records, which began in 1969, and one of the windiest for the UK since 1993

October 2013 saw St Jude's Day storm during which winds peaked at 99mph: Four people died and peak calls to the emergency services increased to four times the usual level. Some critical infrastructure, including roads and bridges, were also closed

July 2013 - the third warmest on record: figures show that 457,459 people attended A&E wards, minor injury units or walk-in centres in the week ending 14 July in England – more than any other week during that winter

March 2013 was joint second coldest on record: 31,100 excess deaths were attributed to cold weather. In contrast, March 2012 saw people take to the beach with temperatures in places reaching 20 degrees

*There is currently limited evidence to suggest that the UK is increasing in storminess as a result of climate change; climate models show that extreme weather is projected to increase into the future

Box 3: Future climate impacts?

Summer temperatures are projected to increase in the coming years; we can expect more frequent hot spells

Winter temperatures are projected to increase across the UK, however we will still experience cold spells. Winter rainfall is projected to increase

Extreme weather events such as heatwaves are projected to increase in frequency and intensity. We can expect an increase in high river flows and flooding

Read more about UK Climate Projections at:

<http://ukclimateprojections.metoffice.gov.uk/> and www.lwec.org.uk/resources/report-cards

Box 4: The environment as a wider determinant of health

The following are sources of evidence, good practice and practical tools which align health and environmental objectives:

National Adaptation Programme: www.gov.uk/government/policies/adapting-to-climate-change/

Public Health England: Health Effects of Climate Change 2012: www.hpa.org.uk/hecc2012

Joseph Rowntree Foundation, Climate change, justice and vulnerability, is a study about injustice in the distribution of the impacts of climate change on people's wellbeing in the UK
www.jrf.org.uk/media-centre/climate-change-injustice

UK Climate Change Risk Assessment: Government Report www.gov.uk/government/publications/climate-change-risk-assessment-ccra

London Climate Change Partnership, Linking Environment and Health (2012)

www.climatelondon.org.uk/publications/linking-environment-and-health/

National Council of Voluntary Organisations (NCVO):

- Vulnerable people and climate change report:

www.ncvo.org.uk/practical-support/impact/climate-change

-The role of voluntary and community organisations in responding to a changing climate:

www.ncvo.org.uk/images/documents/practical_support/impact/climate-chnage/The_Big_Response_project_report.pdf

Social Care Institute for Excellence (Scie): Sustainable Social Care programme:

www.scie.org.uk/adults/sustainablesocialcare/index.asp

The benefits of joint-working – adaptation ‘win-wins’ for health and wellbeing

Whilst the NAP recognises the responsibility for addressing many of the health risks rests with the local health and social care system, it is recognised that solutions, particularly those for the medium to long-term, require multi-agency, cross-sectoral collaboration. The Marmot Review outlines a number of cross-sectoral objectives and opportunities for reducing health inequalities (such as improving active travel, availability of good quality open and green spaces, the food environment in local areas and energy efficiency of housing across the social gradient).

HWBs are in a unique position to provide leadership for climate change adaptation to improve the health and wellbeing of local communities. The strategies and assessments undertaken by them to establish commissioning priorities provide an important tool for influencing this wider agenda, in addition to delivering on health commitments. For example, JSNAs can be used to identify the challenges posed by excess seasonal summer and winter deaths and illnesses locally, and Joint Health and Wellbeing Strategies can be used to agree actions to reduce them. These processes should in turn inform commissioning priorities across the local health and social care system.

Figure 1: HWB's sphere of influence

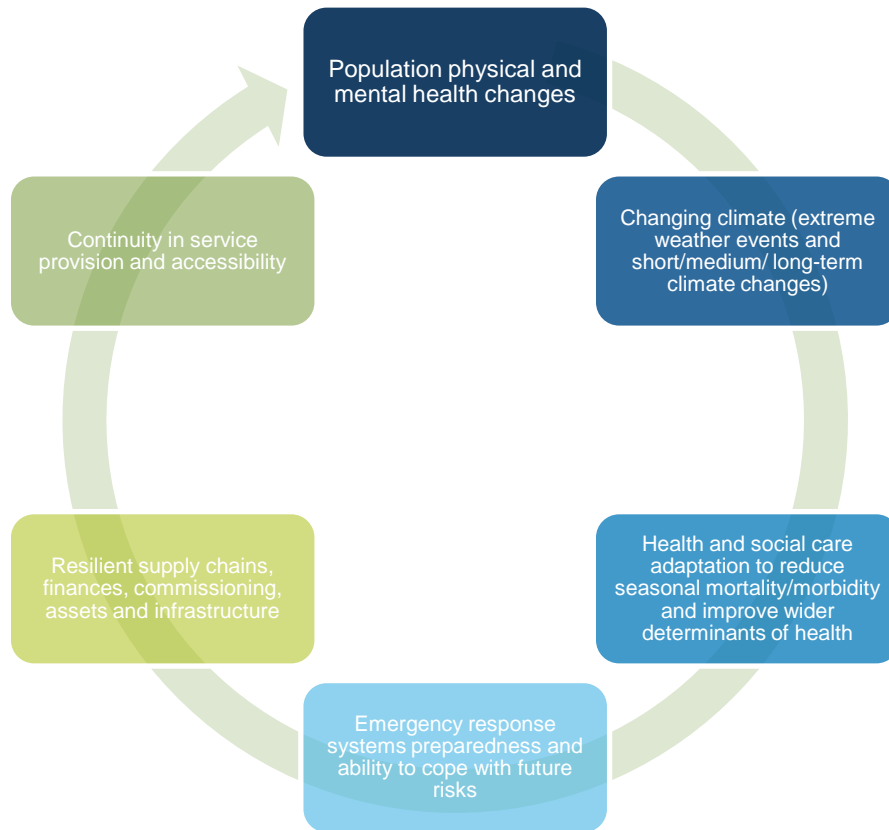


Adaptation is important for health and wellbeing not only at a preventative level (e.g. reducing pressure on health and social care services, supporting business continuity planning, and reducing health inequalities) but also through providing or developing solutions which universally serve the NHS, public health and social care system. Adaptation to climate change is a health protection issue (hence the explicit link to it in the Public Health Outcomes Framework¹⁷) and its importance will continue to increase as our climate continues to change. An example of the importance of adaptation in continuity of health and care services in a changing climate is depicted in Figure 2.

“... unless we take steps now to plan for the longer term changes we will not be prepared. Moreover, these need to be taken on a multiagency basis in conjunction with partners to meet the expected challenges posed by climate change in the medium to longer term”

Heatwave Plan for England 2013

Figure 2: Adaptation for continuity of health and care services in a changing climate



The impacts where you live

The effects of climate change will vary depending on the part of the country you live in. Risks and opportunities to the health and social care system will therefore change according to geography. A good place to start understanding the projected regional impacts are from the series of regional Climate Change Risk Assessments from the Climate UK climate change partnerships¹⁸. Figure 3 demonstrates some of the health impacts of climate change according to some broadly categorised spatial settings. Case study 1 provides an example of how adaptation can reflect local geography and priorities and work across administrative boundaries.

Box 5: Get evidence from your Local Climate Impacts Profile (LCLIP)

Completing a Local Climate Impacts Profile is one effective method of assessing current risks to health and wellbeing as a result of climate and extreme weather.

Visit the UKCIP website for information on how to complete an LCLIP: www.ukcip.org.uk/wizard/current-climate-vulnerability/lclip/

Figure 3: Climate change impacts where you live



Case Study 1: GrEAN- Ambulance Service climate change adaptation plan

The GrEAN (Green Environmental Ambulance Network) was set up in 2011 to unify the ambulance services across the country in sustainability actions. A team made up of business resilience and continuity teams in addition to operational and sustainability leads, worked to produce a national climate change adaptation plan. This involved working with other ambulance services across the country.

Implementation

A national climate change adaptation plan is being delivered on a national scale to identify what the ambulance service has in place to reduce the effects of climate change on services, identifying any areas that require support.

Benefits

Identifying and implementing adaptation options helps to prepare for the uncertainty of the future by:

- Identifying the current effects of climate change on the ambulance service
- Projecting the effects of climate change on the ambulance service in the future
- Identifying how to respond to future changes
- Helping ambulance services around the country to achieve their carbon reduction strategy aims to cut their carbon emissions by 10% by 2015

Author contact details

Alexis Keech, Environmental & Sustainability Manager, alexis.keech@yas.nhs.uk

Vulnerable populations and health inequalities

“Inequalities are a matter of life and death, of health and sickness, of well-being and misery. The fact that in England today people from different socioeconomic groups experience avoidable differences in health, well-being and length of life is, quite simply, unfair and unacceptable.”

Fair Society, Healthy Lives: The Marmot Review, 2010

“Vulnerable groups including people facing poverty and disadvantage, and agencies working with these groups, should be at the centre of developing climate change adaptation strategies... voluntary and community organisations (VCOs) are not involved in local adaptation planning and there is still a need to build their appreciation of climate change as an issue.”

Socially Just Adaptation to Climate Change, Joseph Rowntree Foundation report (2012)

JSNAs need to identify vulnerable populations and quantify the impacts of climate change on these groups in order to provide a strong basis for integrated policies to reduce health inequalities. JSNAs could identify those at heightened risk of the effects of climate change and suggest adaptation measures - such as improving the accessibility of good quality open and green spaces available to all (a recommendation of the Marmot Review) that will help to reduce these risks. There are certain factors that increase an individual's risk during a heatwave and these are outlined on page 4 of the [Heatwave Plan for England 2013 - Making the Case](#)¹⁹. Characteristics here are shared with other extreme events e.g. those vulnerable to heat also tend to be vulnerable to cold, flooding and other extreme events.

Those at greatest risk during a heatwaves and other extreme weather events include:

- **older people:** especially those over 75 years old, or those living on their own who are socially isolated, or in a care home
- **chronic and severe illness:** including heart conditions, diabetes, respiratory or renal insufficiency, Parkinson's disease or severe mental illness. Medications that potentially affect renal function, the body's ability to sweat, thermoregulation (e.g. psychiatric medications) or electrolyte balance (diuretics) can make this group more vulnerable to the effects of heat
- **infants:** who are vulnerable to heat due to their immature thermoregulation, smaller body mass and blood volume, high dependency level, dehydration risk in case of diarrhoea
- **homeless people** (those who sleep in shelters as well as outdoors) may be at increased risk from heatwaves. Higher rates of chronic disease (often poorly controlled), smoking, respiratory conditions, substance dependencies and mental illness are more frequent homeless populations than in the general population. These factors increase the risks of heat related morbidity and mortality, on top of social isolation, cognitive impairment, living alone and being exposed to the effects of urban heat island
- **people with alcohol dependence and drug dependence:** often have poorer overall health and increased social isolation which can increase their risk of heat stress
- **inability to adapt behaviour to keep cool:** such as having Alzheimer's disease, a disability, being bed-bound, drug and alcohol dependencies, babies and the very young
- **environmental factors and overexposure:** living in urban areas and south-facing top floor flats, being homeless, undertaking activities that are in hot places or outdoors with high levels of physical exertion, children and adults taking part in organised sports (particularly children and adolescents)
- **other groups of people** older carers; tourists and people attending large scale public events

Box 7: Identifying population vulnerabilities

- Why we need a socially just response to climate change: <http://blogs.ncvo.org.uk/2013/02/28/why-we-need-a-socially-just-response-to-climate-change/>
- Measuring Health Inequalities (Part 5 of JSNA - the Association of Public Health Observatories Resource Pack) www.yhpho.org.uk/resource/item.aspx?RID=9957
- Joseph Rowntree Foundation is producing a tool, in partnership with Manchester University, entitled *ClimateJust* – which is designed to help local authorities assess how climate impacts will affect residents across various geographical areas and socio-economic groups. Expected publication: Autumn 2014 www.jrf.org.uk/media-centre/climate-change-injustice
- NCVO's Vulnerable People and Climate Change project is a good source of examples of organisations working with vulnerable client groups who have explored the impacts of climate change issues. http://blogs.ncvo.org.uk/wp-content/uploads/kate-damiral/climate_change_and_bme_communities_exercise_on_screen_version.pdf
- Cabinet Office Guidance for Emergency Planners and Responders: Identifying People Who Are Vulnerable in a Crisis www.gov.uk/government/uploads/system/uploads/attachment_data/file/61228/vulnerable_guidance.pdf

Box 6: Reducing health inequalities

People on low incomes in the UK are to live in urban areas which will be warmer, and are therefore at risk of cardiovascular or respiratory disease. They are also more likely to live in homes less well protected and in areas that are more exposed to weather extremes and flooding. Policies to tackle climate change therefore have a direct relevance to health and health inequalities.

Economics of adaptation

“Despite the current pressure on funding and service delivery, it will be considerably more cost effective to act sooner rather than wait to react to what is inevitable. This is a clear example where prevention will be better than cure. The flipside of this is that the potential costs of getting this wrong, or of inaction, will be considerably greater.”

Will Day – Sustainability Advisor to Pricewaterhouse Coopers

Message from the 2006 Stern report on the economics of climate change: The overall costs of not acting against the risks of climate change will be equivalent to losing at least 5% of global GDP each year, now and forever. If a wider range of risks and impacts is taken into account, the estimates of damage could rise to 20% of GDP or more.²⁰

Opportunities:

- make the case to finance managers and commissioners of health and social care services, using evidence and examples of good practice
- highlight how existing processes already address climate risks and identify further win-win opportunities. Select low cost, high impact options
- identify innovative funding resource mechanisms – identify funding that can support health and other local initiatives and how can the community and voluntary sector be engaged

Box 9: Cost effective solutions

Recent studies have suggested savings based on low cost solutions:

- having a view of green space from your home can save up to £452 per person (based on quality adjusted life years [QALY]). Green spaces can also reduce flood risk and aid the absorption of airborne pollutants. See: HEYwoods www.heywoods.org.uk/
- encouraging physical exercise in green spaces through local exercise schemes and active transport planning can save between £12 and £39 per person. Such initiatives can also help to improve air quality and mental health.

Box 8: Resources to strengthen your business case

- World Health Organisation Economic Analysis Tool to estimate health adaptation costs (2013) www.euro.who.int/en/health-topics/environment-and-health/Climate-change/publications/2013/climate-change-and-health-a-tool-to-estimate-health-and-adaptation-costs
- The Development and Delivery of European Structural and Investment Funds Strategies: Supplementary Guidance to Local Enterprise Partnerships (2013) www.gov.uk/government/publications/european-structural-and-investment-funds-strategies-supplementary-guidance-to-local-enterprise-partnerships
- Economics of Climate Resilience (ECR) Frontier Economics / Defra <http://randd.defra.gov.uk/Default.aspx?Module=More&Location=None&ProjectID=18016>

Data sharing for better health and climate adaptation

‘Sometimes a range of different professionals supporting individuals knew that a person was living in a cold house, for example, but there weren’t clear arrangements for either the sharing of information between professionals or clear guidelines as to where to refer that person onwards to maximise support which might be available’.

Cold Weather Plan for England 2013

The benefits of greater sharing of information between public, private and voluntary sector organisations are clear. Schemes run through the [Warm Homes Healthy People \(WHHP\) fund](#)²¹ demonstrate that effective involvement and communication between clients, families and services was key to increasing referrals run under this initiative.

Opportunities:

- set up protocols to support data sharing – eliminate perceptions that GPs and other healthcare providers are unable to share data due to concern about [Caldicott Review](#) and data protection issues
- find innovative ways of using existing data sets and knowledge - to target their schemes to those who may not engage with health and social care services or those who are socially isolated
- summarise health intelligence requirements for local authorities to support delivery of their new responsibilities for protecting and improving public health, describing the issues they will need to address, such as: access to relevant health and social care data and evidence; provision of specialist skills; and governance of any confidential information used for health intelligence
- ensure effective flow of information with voluntary and social enterprise organisations working with vulnerable people
- develop case studies to show how areas have worked in partnership to improve referral across agencies

Box 10: Data sharing resources and protocols

- Public Health England Evaluation Report: Warm Homes Healthy People Fund 2012/13
www.hpa.org.uk/webc/HPAwebFile/HPAweb_C/1317140133236
- Gov.uk Information: To Share or not to Share - Government Response to the Caldicott Review
www.gov.uk/government/publications/caldicott-information-governance-review-department-of-health-response
- Gov.uk Local public health intelligence fact sheets
www.gov.uk/government/publications/public-health-intelligence-guidance-for-local-authorities

Table 1: Taking advantage of your Health and Wellbeing Boards' roles and responsibilities

What your Health and Wellbeing Board is already doing:	Opportunities for being Climate Ready	Example actions	Other objectives you will meet (statutory obligations, national agendas and local targets)
Strategic influence over commissioning decisions across the NHS, public health and social care system.	Strategic commissioning decisions that incorporate local priorities and impact of climate change on these. Decision-making synergies with environment, planning, transport and other links to health determinants.	Influence development decisions such as green infrastructure (which can provide cooling, a carbon sink and improved mental health ²²)	Adult Social Care Outcomes Framework²³ Public Health Outcomes Framework²⁴
Drive local commissioning of health care, social care and public health and create a more effective and responsive local health and care system. ²⁵	Cross sector thinking (education, transport and housing providers and planners) will enable the benefits of climate change adaptation to be recognised across a number of different services and reduce chance of missed opportunities or the exacerbation of health inequalities.	Implementation of sustainable transport systems and increasing rates of physical activity. By encouraging cycling and walking, and taking a whole person approach the risk of cardiovascular diseases and obesity can be reduced ²⁶ , at the same time as mental health being improved.	Marmot Review ²⁷ policy targets: Improving active travel across the social gradient Improving the availability of good quality open and green spaces across the social gradient Improving the food environment in local areas across the social gradient Improving energy efficiency of housing for all Public Services Social Value Act (2012)²⁸ Legislation states that public sector organisations must procure in a fashion which considers a broad spectrum of benefit beyond just costs. This includes social and environmental benefits.
Bring together councils, CCGs and other organisations to develop a shared understanding of the health and wellbeing needs of the community. ²⁹	Knowledge of local climate change vulnerabilities and the needs of the community in relation to climate change risks, and reduce conflicting interests between commissioners and councillors.	Data sharing between agencies and across public, private and voluntary sectors to create opportunities for identifying local vulnerable people (e.g. identifying people living in cramped city centre conditions who are prone to the impacts of increased summer temperatures ³⁰).	There is a requirement in the NHS Standard Contract³¹ Service Conditions – SC15 & SC30) requires providers of NHS services to comply with the SDU guidance to: <ul style="list-style-type: none"> • take all reasonable steps to minimise their adverse impact on the environment • provide a summary of progress on sustainable development - including adaptation to climate change in their annual report • comply with conditions regarding emergency

What your Health and Wellbeing Board is already doing:	Opportunities for being Climate Ready	Example actions	Other objectives you will meet (statutory obligations, national agendas and local targets)
		<p>Inform and empower people and communities about the impacts on health and wellbeing from climate change.</p> <p>Work with different public and private organisations, including voluntary organisations, to develop networks of understanding. Voluntary and community organisations who work to support and represent the interests of vulnerable people and communities need to be engaged with others working in the Health and Social Care Sector.</p>	<p>preparedness and resilience, such as national and local civil contingency plans; compliance with Civil Contingencies Act 2004 (Preparation and planning for emergencies)³²; Emergency Preparedness, Resilience and Response (EPRR) Guidance³³</p> <p>2014/15 NHS Standard Contract: General Contract³⁴ 2014/15 NHS standard Contract: Service Conditions³⁵</p> <p>Localism Act³⁶</p>

Case Study 2: It's never too late

Hull City Council undertook a retrospective adaptation risk assessment of their JSNA to inform the development of work programmes in the future, and better understand the links between health and wellbeing and climate change. The assessment will allow the HWB and Director of Public Health to be better placed, as the Heatwave Plan is revised in 2014 to include a greater role for local government. This demonstrates that the cyclical, evolving nature of JSNAs can be complemented by adaptation strategies and risk assessment to climate and extreme weather. [The Climate Ready Adaptation Wizard](#) offers a simple, iterative approach to adaptation risk assessment which can be used to complement the JSNA process.

See Case Study JSNAs beyond the strategy in Section 2.

Part 2: Enabling action – what you can do in your role

What you can gain by acting now

By engaging in climate change adaptation, you can make the most of opportunities to:

- reduce the burden on health and social care service providers and the financial pressures on the health and social care sector by being familiar with the vulnerabilities in your local area - both people and services that are liable to disruption from climatic impacts
- promote a healthy, resilient environment for people to live and work, through continuing to engage with other local and national agencies and departments on adaptation to climate change - take collaborative actions to build climate change resilience into wider plans for health and wellbeing, infrastructure, transport, housing and community engagement
- improve emergency response and community resilience by analysing future risks associated with outbreaks, weather, and preventative and control mechanisms
- encourage and promote healthier lifestyle choices, reduce air pollution and mitigate against climate change by promoting and adopting active transport plans such as walking and cycling
- improve business continuity and reduce the economic impacts of weather by implementing sustainable supply chain practices and robust business continuity arrangements with contractors and service providers

‘Many of the principles used in social care, such as risk assessment, harm reduction, resilience, and the importance of early intervention, are equally useful when we think about the environment’

Independence, Community and Environment: Final report of the Sustainable Social Care Learning Network

Box 11: Local Health Resilience Partnerships (LHRP)

- One of the key objectives to ensure climate resilience is embedded in the health and social care system, is the promotion of such resilience within the NHS, public health and social care system to ensure continuity of services and assets/estates
- The establishment of Local Health Resilience Partnerships (LHRP) across England will provide a strategic forum for joint planning and preparedness for emergencies for the health system
- LHRPs support the health sector’s contribution to multi-agency planning and preparation for response through Local Resilience Forums
- The Department of Health is working with the Information Centre for Health and Social Care and NHS Emergency Preparedness Resilience and Response (EPRR) and business continuity teams, to develop climate resilience reporting within national NHS estates and business continuity information frameworks
- The work of Health and Wellbeing Boards and Directors of Public Health can help to build preparedness and resilience to health risks from extreme events
- This continuity will enable integration of services and support, efficiencies to be made and raise the profile of health in relation to adapting to climate change.

Read more: www.gov.uk/government/publications/resource-pack-for-local-health-resilience-partnerships

Table 2: A guide to taking climate adaptation action

Your role	Wellbeing objective	What can I do to review my actions?	Key questions for HWBs to assess the risks. Has my health and wellbeing board...?	Adaptation benefits
Members of Health and Wellbeing Boards and Clinical Commissioning Groups (CCGs).	Reducing health inequalities and vulnerabilities	<p>Assess current strategies to minimise the climate-related health risks suffered by local populations such as accounting for excess seasonal mortality and morbidity.</p> <p>Assess the extent to which climate-related vulnerability is being profiled in local strategies, including current awareness of these issues.</p>	<p>Q: Considered which weather events pose the most risk, to which communities, and in which specific localities?</p> <p>Q: Build links with those who support local vulnerable communities across the public, private and voluntary sector?</p> <p>Q: Considered what networks, services and support mechanisms can be offered to vulnerable communities to help alleviate the impacts of climate change, such as heatwaves?</p>	<p>Encouraging initiatives which address fuel poverty and the ability of properties to cope with heat and cold, the risk to vulnerable populations can then be reduced. More energy efficient living spaces can be developed.</p> <p>Fuel poverty can be seen as a powerful entry point for action on adaptation. Provide information to and work with voluntary and community organisations who work with vulnerable people and communities.</p>
	Preparing for emergencies	<p>Assess the resilience of services to extreme weather and disruption; ensure response and recovery plans are in place.</p> <p>Examine the provision of emergency and longer term mental health care in planning, response and recovery in flooding.</p>	<p>Q: Gathered information on the emergency response systems for severe weather and public health outbreaks?</p> <p>Q: Considered whether these systems would be able to cope with an increase in frequency and scale of these events?</p> <p>Q: Ensured that good practice is shared across all agencies, providers, community groups and voluntary organisations</p>	<p>By analysing the extent of preventative and control mechanisms (i.e. surveillance, risk assessment, communication, and preparedness for potential outbreaks), plans can be implemented or improved across sectors in order to limit the impact and co-ordinate the response.</p>

Your role	Wellbeing objective	What can I do to review my actions?	Key questions for HWBs to assess the risks. Has my health and wellbeing board...?	Adaptation benefits
	Reducing incidents of pollution and prevalence of aeroallergens	Forecast the frequency of air quality thresholds being exceeded based on current trends, climate projections and associated evidence.	<p>Q: Assessed the extent to which we already work with transport planners, to ensure green and active transport is being maximised?</p> <p>Q: Monitored and communicated air pollution levels. Can alerts be provided when pollution levels are high?</p>	Ensuring health-related adaptation principles are included in local transport plans. Promote active transport to reduce pollution and encourage healthier lifestyles in local communities.
	Procurement/ supply chain resilience	<p>Review the current environmental performance and resilience of supply chains for all health and wellbeing services. Identify opportunities for improving and incorporating new, more resilient business models.</p> <p>Assess the awareness of the implications of severe weather events and climate change within contracts and procurement to ensure that business continuity plans are in place.</p> <p>The SDU strategy module on commissioning and procurement³⁷, is a useful guide to implementing and reviewing these practices.</p>	<p>Q: Considered the implications of extreme weather on supply chains and service provision. Would operations suffer a loss in service?</p> <p>Q: Considered contracting with local suppliers and sourcing local produce where possible to minimise risks associated with supply chain disruption?</p> <p>Q: Asked providers to produce adaptation plans?</p>	Implementing sustainable supply chain practices that promote climate resilient sourcing of products and services throughout the health and social care system will help to ensure services continue to run smoothly in the face of a changing climate.
	Increased system, service and infrastructure resilience	Assess the extent to which health issues have been integrated into local development plans, regeneration, growth and transport strategies.	<p>Q: Collated the known risks in my locality?</p> <p>Q: Considered the level of collaboration on climate change impacts between the NHS, local</p>	Integrating adaptation principles into local planning and design frameworks, where appropriate, will increase resilience to climate change and promote a healthy living environment. Such actions

Your role	Wellbeing objective	What can I do to review my actions?	Key questions for HWBs to assess the risks. Has my health and wellbeing board...?	Adaptation benefits
		Assess the ability for existing infrastructure and future assets, including populated indoor environments, to cope with rising temperatures.	authority, private and voluntary sector providers, as well as other emergency service providers and planners. Has there been adequate consideration given to improving this?	could include: inclusion of adaptation into housing strategies, health and care infrastructure and internal environments. Promoting energy and water efficiency, Sustainable Drainage Systems (SuDS) and adopting green infrastructure policies to town planning and infrastructure planning.
	Education and capacity building	Identify opportunities for building on staff and organisational capacity and understanding of health impacts of climate change. The SDU strategy module on Leadership Engagement and Development ³⁸ provides useful insight to this area.	Q: Considered whether the internal training agenda has a climate change adaptation component? Q: Ensured that staff have access to further climate change adaptation learning materials?	Increased awareness resulting in increased likelihood of prevention and reduced harm. Demonstrates commitment and leadership on this agenda across the entire system. Increased engagement can represent an opportunity to Bring together professionals from health, care, and environmental departments.
Providers of health and social care services across the NHS, local authority, and voluntary and community sector.	Increased emergency preparedness	Assess the resilience of service provision according to projected climate change risks in different localities. Develop an organisation-wide adaptation plan: <i>Adaptation to Climate Change, Planning Guidance for Health and Social Care Organisations</i> ³⁹ , has been developed by the SDU to assist with this process.	Q: Considered the impacts of extreme weather events on service users and changing patterns of demand? Q: Considered the appropriateness of the emergency response mechanisms that we already have in place? Q: Taken action to ensure that Emergency Preparedness, Resilience and Response (EPRR) requirements are being met across all provider organisations?	By factoring in the likely impacts of a changing climate, preparedness, efficiency and business continuity and reputation of provider organisations can be protected and improved.

Your role	Wellbeing objective	What can I do to review my actions?	Key questions for HWBs to assess the risks. Has my health and wellbeing board...?	Adaptation benefits
	Awareness of people who are vulnerable to climatic impacts such as the aging population, people with disabilities, children, and migrant populations).	Familiarise yourselves and colleagues with the physical and population vulnerabilities in your locality and assess which areas will be most in need in the event of severe weather. Consider the location of all service providers who contribute to the health and wellbeing of your service users, including private, and voluntary organisations.	<p>Q: Assessed the vulnerabilities in my local area and made my staff aware of these?</p> <p>Q: Invited providers to present evidence to the board on vulnerabilities within local communities?</p> <p>Q: Fully understood the role of voluntary, community and social enterprise organisations in engaging and supporting vulnerable people in a changing climate?</p> <p>Q: Considered opportunities to share and extend training and learning on climate-related vulnerabilities to other organisations?</p>	Being familiar with vulnerabilities in your area can enable you to increase the uptake of support within vulnerable populations, thereby reducing the pressure on health and social care services during and after extreme weather events.
	Ability to deliver care and services during increased periods of hot weather, cold weather, and during floods and storms.	<p>Consider the implications of hot weather on your service and your service users during a heatwave. Assess risks according to lessons learned during previous hot spells.</p> <p>Consider the implications of cold weather on your patients or service area.</p> <p>Consider how staff would get to work during snowy and icy periods? Have employees been briefed in driving in hazardous</p>	<p>Q: Understood, communicated, and trained others on the principles within the Heatwave and Cold Weather Plans? Ensured that this is embedded into emergency preparedness and service delivery plans?</p> <p>Q: Considered how staff would cope with transport disruptions? Have employees of all services been briefed on recognising symptoms of heat stroke? Is this knowledge being shared across</p>	<p>By increasing awareness of the Heatwave Plan and Cold Weather Plan amongst your community and within your organisation, you can minimise the risk of negative health impacts, help to reduce the pressure on services, and promote integration across organisations.</p> <p>Engage with voluntary and community organisations to ensure that business continuity and health and safety policies are</p>

Your role	Wellbeing objective	What can I do to review my actions?	Key questions for HWBs to assess the risks. Has my health and wellbeing board...?	Adaptation benefits
		conditions?	public, private and voluntary organisations to align with others on this key risk?	climate ready. Include preparedness for extreme weather events in life-skills support packages for service users.
	Community resilience	<p>Consider if local community groups, social enterprise and other advocacy groups are aware of locally relevant health impacts of climate change.</p> <p>Are there mechanisms for my community groups to get involved to the climate change adaptation and health agenda and contribute towards solutions?</p> <p>SDU strategy module on <i>Healthy, Sustainable, Resilient Communities</i>⁴⁰ has been developed by the SDU to assist with this process.</p>	<p>Q: Considered what we can do to make climate adaptation relevant to my local community?</p> <p>Q: Considered the opportunities for co-promoting climate adaptation amongst other local agendas?</p> <p>Q: Considered how we are making the most of engaging the community in the climate adaptation agenda?</p>	<p>Climate change adaptation awareness amongst communities empowers people to act for themselves and complement commissioned services across the health and wellbeing system.</p> <p>Community resilience also empowers individuals and groups to raise issues to health and wellbeing boards (or through Healthwatch) which are relevant to wider wellbeing outcomes.</p>

Table adapted from: JSNA: A guide to integrating sustainability, The Cold Weather Plan, The Heatwave Plan

Case Study 3: JSNAs beyond the strategy, Kingston upon Hull City Council

Introduction

The aim of the process was to:

- raise understanding of climate adaptation by the Health and Wellbeing Board and health commissioner
- initiate a climate adaptation assessment of the Joint Strategic Needs Assessment (JSNA) and Sustainable Development Management Plan (SDMP)
- develop understanding of service commissioners linked to resident vulnerability
- integrate understanding into work programmes

What happened?

The Hull [Health and Wellbeing Board](#) became a statutory council committee in April, 2013 and it was important to get climate adaptation on to the agenda early. The publication of the [Sustainable Development Unit Strategy consultation](#) created the opportunity to take a report to the Board in April, to receive a response from the Board on the consultation questions, as well as recommendations for future work.

This report enabled the Health and Well Being Board to participate in a key element in defining the future direction of sustainable development within the health system. The report also included recommendations for future reports on climate adaptation and health, and the integration of sustainable development into future reports which were agreed. The desire of the board to respond to a national consultation exercise enabled climate adaptation issues to be raised and to develop further the link between health and adaptation.

A follow up report in November 2013 drew on the Climate Change Risk Assessment and National Adaptation Programme to highlight to the board and - particularly the Director of Public Health - the responsibilities they have in relation to addressing climate adaptation within the city of Hull. The report also included data from a report by the Joseph Rowntree Foundation, showing the link between social vulnerability and climate change in Hull, and the ability of communities to be resilient to climate change, as well as recover from climate events. The research drew a strong link between health and wellbeing factors and residents vulnerability including age, disability and lifelong limiting illness.

The report recommended a climate adaptation risk assessment of the JSNA to inform the development of work programmes, and the SDMP. This will also enable the board and Director of Public Health to be better placed as the Heatwave Plan is revised in 2014, which will include a greater role for local government.

Points to note:

1. Boards are at different stages, with some still agreeing their priorities and others revising them for 2014/15 so there is an opportunity at the present time.
2. Supporting the board and Director of Public Health by providing response to national consultation on adaptation related subjects helped to raise the profile of these issues
3. Making sure that you have the time to work with the board and service commissioners across the authority to develop their understanding over time is key

Lessons learned:

- Take a proactive role. The agenda of the boards is huge. Understand what the pressures are and how you can demonstrate that you can add value is vital
- Taking the pressure off public health teams by undertaking consultation responses for them is important
- Create direct and clear links between climate adaptation and the local health priorities and provide, evidence of how effective adaptation will positively impact the NHS, public health and social care system
- Having the research that was undertaken by Joseph Rowntree Foundation was very effective in creating a sub-ward level understanding of the links between health and climate change.

Author contact details

Martin Budd, Environment and Climate Change Strategic Advisor,
martin.budd@hulcc.gov.uk

Case Study 4: Working together for practical action, Bristol City Council (BCC)

Introduction

Climate change adaptation is an integral part of BCC's continuing work to improve sustainability and environmental performance in the city. This involves cross directorate working within the council and partnership working across the city with the business, community and voluntary sectors.

What happened?

- climate change was identified as a corporate risk using an impact assessment tool
- EMAS (Eco-Management Audit Scheme) work provided the opportunity to interface between the strategic management and operational teams in the council; climate change adaptation ideas complement the work that seeks to improve the council's environmental performance
- BCC won a bid to be one of the [Rockefeller Institute's Worldwide 100 Resilient Cities](#)
- running climate change adaptation workshops with Health and Social Care Managers and complementary documentation
- working with business continuity officers on issues such as resilient travel and communication plans
- supporting Development Control to offer advice on building resilience and inclusion of renewable energy
- energy security is a further key area for action. BCC commissioned the [Peak Oil Report in 2007](#). The ELENA project (European Local Energy Assistance) provides investment in major energy efficiency projects, decentralised heating and cooling systems and renewable energy generation in the city
- digital futures team worked on opportunities to be resilient via new technology
- worked with the Bristol Food Policy Council to work towards improving the city's future food security
- supported Schumacher Institute with their city-focussed programme *Prepare for Change*
- Bristol is to be European Green Capital 2015

Lessons learned

- climate change adaptation in the health and social care sector means we are working with colleagues who are working with the most vulnerable people in our city
- It's becoming easier to engage operational teams in recent times as all have had recent experience of more severe weather and its impact on services
- business cases demonstrating financial savings will be more likely to encourage and engage others to talk about adapting to climate change
- this is a journey, there is more work needed & more barriers to overcome, there will hopefully be measurable progress resulting from using this toolkit within BCC
- barrier of short term budgeting for a longer term problems
- barriers around backdrop of restrictions in local authority budgets
- being open to new ideas and change, be inclusive and work collaboratively to find solutions
- meeting colleagues and partners face to face improves communication and understanding
- tailor your climate change messages to your audience (strategic or operational) – see table 2
- be resilient yourself and prepared to keep emphasising and repeating the key messages

Further references

- Rockefeller 100 Resilient Cities <http://100resilientcities.rockefellerfoundation.org/>
- Bristol European Green Capital 2015 www.bristolgreencapital.org/european-green-capital-award/
- Peak Oil Report www.bristol.gov.uk/page/environment/peak-oil-and-transition-bristol
- ELENA Project www.heatandthecity.org.uk

Part 3. Becoming climate ready - tools and resources for adaptation

“The care of the future must be cost effective but it must never lose sight of the needs and aspirations of service users, the value of individuals within communities whatever their circumstances, and the importance of a safe environment which can be enjoyed by all.”

Alex Fox, Chief Executive, Shared Lives Plus and Chair, Care Provider Alliance (2012-2013)

This section of the toolkit provides an understanding of how you can become climate ready.

What does a climate ready JSNA/JHWS look like?

A climate ready JSNA acknowledges the value of a whole system approach to climate adaptation and health and wellbeing. It recognises that connecting the wider determinants of health with planning and strategy (across the NHS, local government and voluntary and private sector organisations) will maximise use of resources, reduce demand for services and build resilience against the impacts of a changing climate. A whole system approach will ensure optimum return on the individual actions of stakeholder organisations.

Remember - all HWBs are different and will vary according to local need or context. Use this checklist as a basis to determine how climate ready your JSNA and JHWS is.

Table 3: A checklist for assessing your JSNA/ JHWS

Does your JSNA / JHWS...?		Y	N
1.	Plan into the medium and long term , e.g. to 10, 20, 30 years and consider how risk factors (e.g. air pollution, temperature) and interventions may change in the future and acknowledge future uncertainties?		
2.	Consider the impacts of climate change (e.g. extreme weather events, heatwave mortality) on physical and mental health and wellbeing?		
3.	Reflect the potential impacts of climate change throughout the documents and/or clearly identify a chapter on climate change and community resilience		
4.	Take into account particular populations/areas within your locality where there are high levels of vulnerable people and health inequalities and provide strategies to support them?		
5.	Consider the scope for adapting the built and natural environment by taking into account short/medium/long term development and infrastructure planning to prepare for future climate (such as local development plans, provision of green open space)?		
6.	Consider flooding (fluvial/surface water) impacts and adaptation (such as SUDS), particularly in terms of financial and mental health impacts?		
7.	Have policy priorities consistent with national and local adaptation policies, activities and actions?		
8.	Include capacity building and clear, inclusive messages so authorities, key stakeholder and the local community have a good understanding of climate risks, uncertainty and vulnerability?		
9.	Take a locally relevant approach by considering the voices of the local community and their circumstances?		
10.	Consider the wider determinants of climate change on health (such as economic impact)?		
11.	Have an explicit approach to data sharing between agencies?		
12.	Define what success on climate change adaptation looks like in your local area?		

Delivering successful climate change adaptation through your Health and Wellbeing Board: Key questions to ask

As risks to climate change vary according to local circumstance, so will the responses. Below are some key questions for HWBs to initiate conversations with colleagues from the health and social care system and beyond.

Health and Wellbeing Boards

- does a designated member of your HWB hold a portfolio for sustainability and adaptation?
- does your JSNA identify key climate change impacts and potential for adaptation?
- does your Health and Wellbeing Strategy improve the sustainability of communities, making them more resilient to future changes?
- are your local residents and businesses aware of climate change impacts, how they can act and where they can get help?

Local Resilience Forums and Local Health and Resilience Partnerships (LHRPs)

- does your emergency planning include extreme weather events that are predicted to increase due to climate change?
- do your stakeholders take means to mitigate the impact of extreme events on their organisations?

Planning and environment teams

- do you make sure spatial planning is climate proofed (housing, SUDS, green infrastructure)?
- does your transport planning encourage active transport and provide infrastructure to support this?
- are you successfully communicating the relevant public health messages associated with climate change and extreme weather to local communities?
- are you speaking to your climate change/sustainability team?
- have you considered the voluntary and community sector in local climate change adaptation plans?

Voluntary, Community and Social Enterprise Organisations

- are you familiar with your local authority and emergency services plans in extreme weather incidents?
- are you familiar with local community flood plans for areas that cover service users?
- have your service users signed up to receive flood warnings?
- how will the vulnerable people you support access key services during extreme weather events?
- how will your offices, services and supply chains be affected by severe weather?
- are volunteers/volunteer networks aware of the best ways to support people in vulnerable circumstances during extreme weather

NHS (e.g. CCG, NHS England area teams)

- have you quantified the impact of climate on demand for primary and secondary care?
- have you identified adaptation measures and worked with stakeholders to implement them?
- do you encourage climate change adaptation through commissioning and Emergency Preparedness Resilience and Response (EPRR) role?

Local authority public health teams

- do you provide information to stakeholders on forecasting potential impacts?
- do you provide information on vulnerabilities and inequalities?
- are you in regular discussion with PHE area teams to gather essential evidence on climate change and the health impacts?

Local Environment Agency teams

- are you working with local government departments to promote adaptation to climate change, linking to related agendas such as flood risk and planning?

Case Study 5: Climate change in Health and Wellbeing Strategy - Bristol City Council

Introduction

Bristol's [Health and Wellbeing Strategy](#) (published October 2013) includes addressing the health impacts of climate change on the built environment as one of the priority areas.

What happened?

Starting with a wide-ranging Health and Wellbeing Strategy Stakeholder event in October 2012, Bristol developed an initial draft Strategy with a 'long list' of around 40 priority areas for the next three to five years. Following formal public consultation in early 2013, where environmental factors came up strongly, and stakeholder workshops to assess the evidence, this was focussed down to 10 clear priorities, including:

“Create a high quality and well-connected built and green environment, and manage the health impacts of Climate Change”

Bristol Health and Wellbeing Strategy 2013

Points to note

1. Before the formal transition of Public Health into the local authority, Bristol had developed a small *Healthy Urban Team* of Public Health professionals embedded in key council departments. This team had built an extensive understanding of the link between health, and the way in which the urban environment is planned and managed.
2. There is still work in process to confirm the actions needed to meet this priority, and the indicators that best monitor success, but having this intention clearly stated in the strategy highlights the importance of incorporating population health impacts into urban planning and climate change adaptation.
3. The Health and Wellbeing Board recognises that it will not be delivering this itself, but will be seeking assurances from other relevant bodies as it recognises the importance for health and wellbeing.

Lessons learned

- include stakeholders from outside core health partners as part of the consultation process
- use the strategy to gain local buy-in to managing the health impacts of climate change, even if don't yet have all the answers of how to embed this.
- the key underlying factor was understanding the importance of wider determinants of health, including environmental factors, and including some measures of their impacts on population health.
- need to include qualitative evidence in addition to core *JSNA data* to develop and inform priorities.

Further references

- Bristol-health-and-wellbeing-strategy-2013 www.bristol.gov.uk/page/health-and-adult-care/health-and-wellbeing-strategy
- Health & Wellbeing Board page: www.bristol.gov.uk/hwb

Author contact details

Nick Smith, Bristol JSNA Project Manager: nick.smith@bristol.gov.uk

Your climate ready guide

This final section of the toolkit will provide you with a range of good practice support and learning materials to help you take action.

Table 4: Sector specific resources

Sector	Key messages	Resources and guides
<p>Local Authorities</p>	<p>Councils are ideally placed to bring agendas together to ensure 'win-win' outcomes for the local community. In this sense climate action is not a new or different agenda⁴¹.</p> <p>Health and Wellbeing Boards play a key role in local leadership across the health, public health and social care system, aligning priorities and maximising return for the benefit of local populations.</p>	<p>Climate Local: acting on climate change ward councillor workbook www.local.gov.uk/the-lga-and-climate-change-/journal_content/56/10180/3574359/ARTICLE</p> <p>Built Infrastructure for Older People's Care in Conditions of Climate Change (BIOPICCC) supporting local planning, in conjunction with a number of local authority areas advisory toolkit which promotes a whole-systems approach: www.dur.ac.uk/geography/research/researchprojects/biopiccc/toolkit/</p> <p>Bournemouth Borough Council - Adapting to Climate Change. This demonstrates how climate change has been integrated into the corporate risk assessment management system. www.ursouthwest.com/climate/registry/110500-laNI188-case-study-Bournemouth-Risk-Assessment.pdf</p> <p>Find out about how Kent County Council integrated climate change and sustainability into their local health strategy: Joint Strategic Needs Assessment - A guide to integrated sustainability www.sduhealth.org.uk/documents/publications/JSNA_Sustainability_Nov_2013.pdf</p>
<p>Commissioners and Clinical Commissioning Groups (CCGs)</p>	<p>The NHS needs to plan for and respond to a wide range of incidents and emergencies that affect health or patient care, ranging from disruption from extreme weather conditions to an outbreak of infectious diseases. The Civil Contingencies Act (2004) requires NHS organisations, and providers of NHS-funded care, to show that they can manage such incidents whilst maintaining service continuity⁴².</p>	<p>Public Health Outcomes Framework indicator 3.6: Board Approved Sustainable Development Management Plan (SDMP, 2013) www.gov.uk/government/publications/healthy-lives-healthy-people-improving-outcomes-and-supporting-transparency</p> <p>Supply chains guidance produced by climate ready. Useful to commissioners in the health system, enabling them to climate-proof networks of supply for goods and services: www.environment-agency.gov.uk/climateready</p> <p>Commissioning Board Emergency Preparedness Framework 2013 www.england.nhs.uk/wp-content/uploads/2013/03/eprf-framework.pdf</p> <p>Civil Contingencies Act (2004) www.legislation.gov.uk/ukpga/2004/36/contents</p> <p>NHS standard contract (2013/14) www.england.nhs.uk/nhs-standard-contract/</p> <p>NHS Commissioning Board Core Standards for Emergency Preparedness, Resilience and Response</p>

Sector	Key messages	Resources and guides
		(EPRR, 2013) www.england.nhs.uk/wp-content/uploads/2013/03/epr-core-standards.pdf NHS Commissioning Board Business Continuity Management Framework (service resilience, 2013) www.england.nhs.uk/wp-content/uploads/2013/01/bus-cont-frame.pdf
Voluntary Sector and Community Groups	Many voluntary, community and social enterprise organisations work with vulnerable people who often fail to access information and support services. Working with and supporting these organisations to better understand the impacts of climate change is an effective way of both reaching, supporting and empowering vulnerable communities to be more resilient and less at risk from the impacts of climate change.	Snow Angels CIC: Building Community Based Resilience Programmes www.snowangels.org.uk/media-coverage/ Healthwatch: www.healthwatch.co.uk/about-us NCVO Vulnerable People and Climate Change Project www.ncvo.org.uk/practical-support/impact/climate-change/ Cabinet Office Emergency Response – Principles and Guidance (2013) www.gov.uk/preparation-and-planning-for-emergencies-responsibilities-of-responder-agencies-and-others The Civil Contingencies Act 2004 establishes a statutory framework for civil protection at the local level. www.legislation.gov.uk/ukpga/2004/36/contents
Social and Primary Care	There are huge opportunities for embedding climate change adaptation into clinical practice, in all settings. Practitioners should be supported and provided with opportunities for training and knowledge sharing to assess vulnerabilities to extreme events. An aging population and the growing numbers of people of all ages living with one or more long-term conditions (such as diabetes) means that there is an increasing demand for social care, and the integration of health and social care.	Sustainable Social Care and Personalisation - A guide for Community Engagement. www.scie.org.uk/adults/sustainable-social-care/files/sustainable-social-care-and-personalisation.pdf Sustainable systems of social care (2010) www.scie.org.uk/publications/reports/report35.pdf

Moving forward

Health and Wellbeing Boards have a unique opportunity to lead on improving health and wellbeing through climate adaptation actions at a local level. There are a number of ways which you can seek further help and join in the conversation on this agenda.

- Local Government Association (LGA) knowledge hub: Health and Community Resilience thread: www.knowledgehub.local.gov.uk/signin
- Sign up to receive the Association of Directors of Public Health (ADPH) newsletter www.adph.org.uk/
- Sign up to the Climate Ready newsletter on the Environment Agency Website: www.environment-agency.gov.uk/climateready
- Sign up to the Sustainable Development Unit's monthly bulletin on sustainability within the Health and social care system: www.sduhealth.org.uk
- Get in touch with your local Climate Change Partnership for advice and support specific to your area: www.climateuk.net
- Encourage your local authority to sign up to Climate Local: share best practice, demonstrate the importance of acting to adapt to (and reduce) the impacts of climate change, and be a part of the Climate Local network: www.local.gov.uk

Box 12: Unlocking multiple benefits

Integrating adaptation into JSNAs and JHWSs will help unlock a number of benefits for people, services and communities. Action on adaptation at the local level will help Health and Wellbeing Boards to drive a health and social care strategy which is more resilient, coordinated and prepared, in addition to:

- enhancing the quality of life for people with care and support needs through green infrastructure and increased focus on community-led resilience to a changing climate
- complementing the personalisation of health and social care - increasing the resilience of the domestic setting and managing additional risks to people's homes from climate impacts
- increasing the resilience of supporting logistics for health and social care services

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Stakeholder and Technical Advisory Group Members

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Martin Budd	Hull City Council
Nick Jackson	Healthy and Resilient Communities, Climate Ready, Defra
Nick Smith	Bristol City Council
Peter Bulmer	Cheshire West & Chester Council
Prof Rod Thompson	Shropshire Council
Prof Virginia Murray	Extreme Events and Health Protection, Public Health England
Rachel Wookey	Extreme Events and Health Protection, Public Health England
Robert Hitchen	Healthy and Resilient Communities, Climate Ready, Defra
Sangeeta Leahy	Solihull Council (Metropolitan Borough)
Tim Wright	Durham County Council

Expert Advisors and Content Contributors

Alexis Keech	Yorkshire Ambulance Service
Paul Fisher	Birmingham City Council
Sarah Anderson	Kent County Council
Juliet Staples	Liverpool City Council

Organisations

Climate UK
Department for Environment, Food and Rural Affairs
Department of Health
Environment Agency
Joseph Rowntree Foundation
Liverpool City Council
National Council for Voluntary Organisations
NHS England
Public Health England
Sustainable Development Unit

Project Team

Jim Hodgson	Climate Ready, Environment Agency
Shelly Beckett	Climate Ready, Environment Agency
Alex White	URS
Emily Ghedia	URS
Sarah Hill	URS
Sally Vivian	URS

Glossary

Adaptive capacity	Describes the ability of a sector to design or implement effective adaptation measures, using information on possible future climate change and extreme weather to moderate potential damage, take advantage of opportunities or to cope with the consequences
Capacity building	In the context of climate change, capacity building describes developing the right skills and capabilities to help countries adapt to climate change. This also includes helping them to mitigate their greenhouse gas emissions
Climate Change Adaptation	Any adjustment in natural or human systems in response climatic changes, which reduces risks or exploits beneficial opportunities.
Climate	Average weather and its variability over a long period of time, usually 30 years ⁴³
Climate Change Mitigation	Strategies to reduce or prevent human induced emission of greenhouse gases and enhancement of greenhouse gas sinks (like forests and oceans). For example, new technologies and renewable energies, making older equipment more energy efficient, or changing management practices or consumer behavior ⁴⁴
Climate Change Risk Assessment	An independent analysis, funded by UK Government and Devolved Governments, which sets out the main risks and opportunities for the UK, arising from climate change, over the coming years, including those posed to health, business and infrastructure
Climate Impact	The tangible results of climate change (short and long term). For example, increased temperature, changing rainfall patterns
Climate Ready	A support service led by the Environment Agency, which provides online advice, guidance and tailored sector-specific support to help organisations adapt to a changing climate
Extreme weather	Includes unusual, severe or unseasonal weather; or weather at the extremes of the range of weather seen in the past
Environmental Determinants of Health	The context of people's lives and the environment in which they live and work determines the health of individuals and communities ⁴⁵
Flooding	Pluvial: Flooding caused by intense rainfall, often of short duration, the exceeds the capacity of the local drainage systems Fluvial: Flooding that occurs as a result of high water levels in a river channel
National Adaptation Programme	An action plan to highlight the risks and actions which Government, business, and society need to take in order to become climate ready
NCVO- National Council for Voluntary Organisations	The umbrella body for the voluntary and community sector in England. NCVO works to support the voluntary and community sector (VCS) and to create an environment in which an independent civil society can flourish
Resilience	In the context of climate change, describes the ability of a social or ecological system to absorb disturbances while retaining the same basic ways of functioning, and a capacity to adapt to stress and change
Social Value Act	An act which requires public authorities to have regard to economic, social and environmental well-being in connection with public services contracts; and for connected purposes
SuDS	Sustainable Drainage Systems. A sequence of management practices and control structures designed to drain surface water in a more sustainable fashion than some conventional techniques
Vulnerability	An individual's or a particular group's partiality to stressors and shocks, including social exclusion and natural hazards such as flooding or heatwaves
Weather	The state of the atmosphere with respect to wind, temperature, cloudiness, moisture, pressure, etc. Weather refers to these conditions at a given point in time (e.g. today's high temperature) ⁴⁶

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